

PCN Number:	20161209000	PCN Date:	Dec. 15, 2016
Title:	BOM changes for Selected Device(s)		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	March 15, 2017	Estimated Sample Availability:	Date provided at sample request
Change Type:			
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design
<input checked="" type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
		<input type="checkbox"/>	Wafer Bump Site
		<input type="checkbox"/>	Wafer Bump Material
		<input type="checkbox"/>	Wafer Bump Process
		<input type="checkbox"/>	Wafer Fab Site
		<input type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>	Wafer Fab Process
PCN Details			
Description of Change:			
<p>Texas Instruments is pleased to announce updated BOM options for the devices in the 2 groups shown below in the Product affected section. Group #1 devices are being qualified with a new bond wire option the device in Group #2 is being qualified with a new BOM set:</p>			
Group 1 Devices:			
	Pkg Family	Current Wire	Additional Wire
	VSSOP	Au 1.3 mils	Cu, 1.3 mils
	SOT	Au 1.3 mils	Cu, 1.3 mils
	SOT_a	Au 1.0 mils	Cu, 1.0 mils
Group 2 Device:			
	Material	Current	Proposed
	Wire (mils)	Au, 0.80, 0.90 mils	Cu, 0.96 mils
	Lead Frame Thickness	10 mils	6 mils
	Mount compound	4042500	4147858
	Mold compound	4205694	4211880
Reason for Change:			
<p>Continuity of supply. 1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties 2) Maximize flexibility within our Assembly/Test production sites. 3) Cu is easier to obtain and stock</p>			
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):			
None			
Anticipated impact on Material Declaration			
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI ECO website .

Changes to product identification resulting from this PCN:

None

Product Affected:**Group 1 Devices:**

Device	Package Family	Device	Package Family
BQ2022ADBZR	SOT_a	LM34922MYX/NOPB	VSSOP
BQ2022ADBZRG4	SOT_a	LM34923MM/NOPB	VSSOP
EMB1408MME/NOPB	VSSOP	LM34923MMX/NOPB	VSSOP
EMB1420MME/NOPB	VSSOP	LM5006MM/NOPB	VSSOP
HPA01220DBZR	SOT_a	LM5006MMX/NOPB	VSSOP
LM25011AMY	VSSOP	LM5007MM/S7003020	VSSOP
LM25011AMYE	VSSOP	LM5008AMM/NOPB	VSSOP
LM25011AMYX	VSSOP	LM5008AMMX/NOPB	VSSOP
LM25011MY/NOPB	VSSOP	LM5008MM	VSSOP
LM25011MYX/NOPB	VSSOP	LM5008MM/NOPB	VSSOP
LM2734XMK/NOPB	SOT	LM5008MMX	VSSOP
LM2734XMKX/NOPB	SOT	LM5008MMX/NOPB	VSSOP
LM2734YMK	SOT	LM5009AMM/NOPB	VSSOP
LM2734YMK/J7001483	SOT	LM5009AMMX/NOPB	VSSOP
LM2734YMK/NOPB	SOT	LM5009MM	VSSOP
LM2734YMKX/J7001484	SOT	LM5009MM/J7002196	VSSOP
LM2734YMKX/NOPB	SOT	LM5009MM/NOPB	VSSOP
LM2734YMKX/S5001203	SOT	LM5009MMX/J7002197	VSSOP
LM2734YMKX/S7001963	SOT	LM5009MMX/NOPB	VSSOP
LM2734ZMK/NOPB	SOT	LM5020MM-1	VSSOP
LM2734ZMKX/NOPB	SOT	LM5020MM-1/NOPB	VSSOP
LM2735XMF/NOPB	SOT	LM5020MM-2/NOPB	VSSOP
LM2735XMF/NOPB	SOT	LM5020MMX-1/NOPB	VSSOP
LM2735YMF/NOPB	SOT	LM5020MMX-1/S1	VSSOP
LM2735YMF/NOPB	SOT	LM5020MMX-2/NOPB	VSSOP
LM2736XMK	SOT	LM5030MM	VSSOP
LM2736XMK/NOPB	SOT	LM5030MM/NOPB	VSSOP
LM2736XMKX/NOPB	SOT	LM5030MMX/NOPB	VSSOP
LM2736YMK	SOT	LM5033MM/NOPB	VSSOP
LM2736YMK/J7003058	SOT	LM5033MMX/NOPB	VSSOP
LM2736YMK/NOPB	SOT	LM5068MM-2/NOPB	VSSOP
LM2736YMKX/NOPB	SOT	LM5068MM-4/NOPB	VSSOP
LM2830XMF	SOT	LM5068MMX-2/NOPB	VSSOP
LM2830XMF/J7002053	SOT	LMR10510XMF/NOPB	SOT
LM2830XMF/NOPB	SOT	LMR10510XMF/NOPB	SOT
LM2830XMF/J7002054	SOT	LMR10510XMF/NOPB	SOT
LM2830XMF/NOPB	SOT	LMR10510YMF/NOPB	SOT
LM2830ZMF/NOPB	SOT	LMR10510YMF/NOPB	SOT

Qualification Report

Qualify 1.3 mil PCC wire on ABCD150 Si Tech in VSSOP packages (DGK & DGS) at TI Melaka for devices with > 75 Operating Voltage

Approved 10/13/2016

Product Attributes

Attributes	Qual Device: LM5020MMX1NOPB
Assembly Site	TIEM-AT
Package Family	VSSOP
Flammability Rating	UL 94 V-0
Wafer Fab Site	GFAB
Wafer Fab Process	ABCD150XV1

- QBS: Qual By Similarity
- Qual Device LM5020MMX1NOPB is qualified at LEVEL1-260CG

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: LM5020MMX1NOPB
THB	Biased Temperature and Humidity, 85C/85%RH	1000HRS	2/154/0
AC	Autoclave 121C	96HRS	3/231/0
WBS	Ball Bond Shear	76 Balls/ lots	3/228/0
WBP	Wire Bond Pull	Wire	3/228/0
TC	Temperature Cycle, -65/150C	500 CYC	3/231/0
HTSL	High Temp Storage Bake 170C	420HRS	3/231/0
WBP	Bond Pull	Post 500 Temp CYC	1/5/0
SAM	SAM	Before and After Pre Con	3/66/0
SAM	SAM	Post Temp 500 Temp Cycle	4/88/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass
BPC	Bond Pad Cratering Check	Post 500 Temp Cycle	1/30/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

Qualification Report

Qualification of 1.3 mil PCC wire as alternative bonding material for 5/6p SOT23 DBV package-PVIP050 PRTECH assembled at TIEM

Approve Date 30-Nov-2016

Product Attributes

Attributes	Qual Device: LM2736YMKXNOPB	Qual Device: LM2830XMF/NOPB
Assembly Site	TIEM	TIEM-AT
Package Family	FRAME;SOT23;6L;1.753X0.965;AG;MAT;ETCH	FRAME;SOT23;5L;1.372X1.141;AG;MAT;STAMP
Flammability Rating	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MFAB	MFAB
Wafer Process	PVIP050	PVIP050

- QBS: Qual By Similarity
- Qual Device LM2830XMF/NOPB is qualified at LEVEL1-260CG
- Qual Device LM2736YMKXNOPB is qualified at LEVEL1-260CG

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: LM2736YMKXNOPB	Qual Device: LM2830XMF/NOPB
AC	Autoclave 121C	96HRS	1/77/0	1/77/0
TC	Temperature Cycle, -65/150C	500CYC	1/77/0	1/77/0
HTSL	High Temp Storage Bake 170C	1000HRS	1/77/0	1/77/0
WBP	Bond Pull	Wire	1/76/0	1/76/0
WBP	Bond Pull-Post 500 Temp Cycle	Post TMCL 500CYC	1/30/0	1/30/0
BPC	Bond pad cratering	Post TMCL 500CYC	1/15/0	1/15/0
SAM	SAM	Post TMCL 500 CYC	1/10/0	1/10/0
VM	Visual Quality Reliability	TMCL 500CYC	1/2/0	1/2/0
MQ	Manufacturability (Assembly)		Pass	Pass

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
 - The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

Qualification Report

1.3 mils PCC wire qualification on ABCD5 PRTECH in VSSOP package at TIEM

Approved 10/31/2016

Product Attributes

	Qual Device: TPS92560DGQR/NOPB	Qual Device: LM34923MM/NOPB
Assembly Site	TIEM	TIEM
Package Family	VSOP	VSSOP
Flammability Rating	UL 94 V-0	UL 94 V-0
Wafer Fab Site	MFAB	MFAB
Wafer Fab Process	ABCD5	ABCD05

- QBS: Qual by Similarity

- Qual Devices qualified at LEVEL3-260CG: TPS92560DGQR/NOPB, LM34923MM/NOPB

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: TPS92560DGQR/NOPB	Qual Device: LM34923MM/NOPB
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0
WBP	Bond Pull	Wire	3/228/0	3/228/0
WBP	Post Temp. Cycle Bond Pull	Wires	2/60/0	1/30/0
BPC	Bond pad cratering	Post TMCL 500 Cycles	2/4/0	2/10/0
SAM	SAM	Before and After PreCon	3/66/0	3/65/0
SAM	SAM	Post TMCL 500 Cycles	2/20/0	1/10/0
VM	Visual Quality Reliability	TMCL 500 Cycles	2/4/0	2/4/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
 - The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
 - The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours
 - The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles
 Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:
 Qualified Pb-Free(SMT) and Green

Qualification Report

Conversion of SOT23 (DBZ) devices from Au wire to Cu wire at NS2 Approve Date 11-Jan-2016

Product Attributes

Attributes	Qual Device: BQ2022ADBZR	Qual Device: REF3112AIDBZR	Qual Device: TPD2E009DBZR
Assembly Site	NS2	NS2	NS2
Package Family	SOP (SOT23) (COL)	SOP (SOT23)	SOP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	MH8	TMSC FAB2B	FFAB
Wafer Process	LBC7	0.6UM TSMC	ASLC10_BOPO

- QBS: Qual By Similarity

- Qual Devices qualified at LEVEL1-260CG: BQ2022ADBZR, REF1112AIDBZR, REF3112AIDBZR

- Qual Device TPD2E009DBZR is qualified at LEVEL 2-260C

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: BQ2022ADBZR	Qual Device: REF3112AIDBZR	Qual Device: TPD2E009DBZR
PC	Preconditioning	Level 1-260C	6/924/0	3/693/0	3/693/0
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47 : -65C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

Qualification Report

Universal BOM Mold 4211880 and Die Attach 4147858 for SOIC DW Packages in TITL and MLA Approve Date 12-May-2016

Product Attributes

Attributes	Qual Device: ADS1213U	Qual Device: ADS820U	Qual Device: ADS8504IBDW	Qual Device: MSP430F123IDWR	Qual Device: SN65LBC170DW
Assembly Site	TAI	TAI	TAI	TAI	MLA
Package Family	SOIC	SOIC	SOIC	SOIC	SOIC
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	OKI	TSMC WF2	DMOS5	TSMC	DFAB
Wafer Fab Process	OKIDALSATFAB_BICMOS	0.60UM-TSMC	50HPA07	0.35UM-TSMC	LBC3S

- Qual Devices qualified at LEVEL2-260C: ADS1213U, ADS8504IBDW, ADS820U

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: ADS1213U	Qual Device: ADS820U	Qual Device: ADS8504IBDW	Qual Device: MSP430F123IDWR	Qual Device: SN65LBC170DW
AC	Autoclave 121C	96 Hours	1/77/0	-	1/77/0	1/77/0	1/77/0
ED	Electrical Characterization, side by side	Per datasheet parameters	Pass	Pass	Pass	-	Pass
HAST	Biased HAST, 130C/85%RH	192 Hours	-	-	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-
HTSL	High Temp Storage Bake 170C	420 Hours	1/77/0	-	1/77/0	1/77/0	1/77/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	1/77/0	1/77/0	1/77/0

Product Attributes

Attributes	Qual Device: SN65LBC170DW_SSTN	Qual Device: SN74LVC541ADW	Qual Device: SN74LVC541ADW_SSTN	QBS Package Reference: TL494IDR	QBS Package Reference: ULQ2003AQDRQ1
Assembly Site	MLA	MLA	MLA	FMX	FMX
Package Family	SOIC	SOIC	SOIC	SOIC	SOIC
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V0	UL 94 V-0
Wafer Fab Supplier	DFAB	FFAB	FFAB	SFAB	SFAB
Wafer Fab Process	LBC3S	ASLC10	ASLC10	J11	J11-SLM

- QBS: Qual By Similarity

- Qual Devices qualified at LEVEL1-260C: SN65LBC170DW, SN74LVC541ADW, MSP430F123IDWR, TL494IDR, ULQ200AQDRQ1

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: SN65LBC170DW_ SSTN	Qual Device: SN74LVC541ADW	Qual Device: SN74LVC541ADW_ SSTN	QBS Package Reference: TL494IDR	QBS Package Reference: ULQ2003AQDRQ1_STD LF
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	-	3/231/0
ED	Electrical Characterization, side by side	Per datasheet parameters	Pass	Pass	Pass	-	-
HAST	Biased HAST, 130C/85%RH	192 Hours	-	-	-	3/231/0	3/217/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	3/231/0	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0	3/231/0	-	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	-	3/231/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

Change Number: C1406045, C1406067

TI Qualification ID: 20140627-106067, 20141019-109101(QBS), 20140520-104903(QBS)

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

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